

### **Remarks**

First, Applicant's attorney would like to thank the Examiner for the courtesy extended during the October 11, 2006 telephone conversation to clarify some portions of the Office Action.

This amendment is in response to the Office Action of June 15, 2005. In that Action, Claims 1-35, 36, 37-40, and 41-43 were pending, with Claims 3, 10, 11, 16, 18-20, 23-33 and 41-43 withdrawn from consideration. Claims 12, 13 and 17 were rejected under 35 U.S.C. § 112. Claims 1-2, 5, 12-14, 22 and 34-40 were rejected as being anticipated by various references, discussed in detail below. Claims 4, 6-9, 15, 17, 21, and 34 were rejected as obvious in light of various references, discussed in detail below. Applicant believes that the current amendment either addresses or overcomes the Examiner's rejections. Reconsideration and allowance is respectfully considered.

Claims 1, 36, and 37 are currently amended to recite that the fabric has a first side with front stitches formed by a first yarn, a second side formed by a stitch evaded portion of a second yarn, and an elastomeric or stretch yarn incorporated into the front stitches, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. Support for the yarns, positioning, and stitch evasion construction technique may be found in second full paragraph starting on page 23 and ending on page 24 of the application as filed, and in the figures referenced therein. Additional support for the elastomeric or stretch yarn may be found, *inter alia*, in the second full paragraph of page 16 in the specification as filed.

During the telephone conversation of October 11, 2006, the Examiner asked about what was the meaning of "stretch yarn" to those of ordinary skill in the art. In particular, the Examiner was concerned that "stretch yarn" may be construed to include yarns capable of elongation without recovery. Accordingly, the Applicant is submitting for the record, textile dictionary definitions showing that, in the textile arts, stretch yarn is well recognized as meaning a yarn capable stretching a pronounced degree and recovering from that stretch. Specifically, the dictionary, *Textile Terms and Definitions*, The Textile Institute, 6<sup>th</sup> ed., 1970 (copy attached), defines a stretch yarn as follows:

#### **Stretch Yarn**

- n.* Yarn capable of a pronounced degree of stretch and recovery from stretch.

The dictionary, *Dictionary of Fiber and Textile Technology*, KoSa, 7<sup>th</sup> ed., 1999 (copy attached), defines stretch yarn as follows:

Stretch Yarn: Any yarn with the ability to stretch to a significant degree when tension is applied and contract when tension is released, including (1) elastomeric filament yarns, and (2) manufactured filament yarns treated by various texturing process to impart bulk and stretch.

Applicant believes these definitions should address the Examiner's question.

Claim 36 has also been amended to avoid the repetition of "single layer warp-knit fabric" and to remove the recitation of "non-pile".

Claims 12, 13, and 17 are currently amended to provide antecedent basis for "fiber".

Claim 2 is currently canceled.

Claim 14 is currently canceled.

Claim 15 is currently amended to provide proper dependency after the cancellation of Claim 14.

Claim 21 is currently canceled.

#### 37 C.F.R. 1.75(c)

Applicant's cancellation of Claim 2 overcomes the objection under 37 C.F.R. 1.75(c).

#### 35 U.S.C. § 112.

Claims 12, 13 and 17 were rejected for failing to provide proper antecedent basis for the limitation "fiber". Applicant believes the current amendment addresses the Examiner's concerns.

#### 35 U.S.C. § 102

##### Kasey

Claims 1-2, 5, 12-14, 22 and 34-40 were rejected as being anticipated by U.S. Patent No. 3,041,861 ("Kasey"). Applicant believes the currently amended claims more clearly distinguish the claimed invention from Kasey.

Specifically, Kasey does not disclose an elastomeric or stretch yarn incorporated into the front stitches as recited in currently amended Claims 1, 36, and 37. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Kasey.

Additionally, Kasey does not disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by the cited references.

#### Byles

Claims 1-2, 5, 12-14, 22 and 35-40 were rejected as being anticipated by U.S. Patent No. 5,065,600 (“Byles”). Applicant believes the currently amended claims more clearly distinguish the claimed invention from Byles.

Specifically, Byles does not disclose an elastomeric or stretch yarn incorporated into the front stitches as recited in currently amended Claims 1, 36, and 37. As noted in the previous Response, Byles teaches a rigid fabric designed specifically to restrict stretchability (col. 7, lines 45-55). For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Byles.

Additionally, Byles does not disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Byles.

#### Richards

Claims 1-2, 4-5, 12-15, 22 and 35-37 were rejected as anticipated by U.S. Patent No. 5,542,269 (“Richards”). Applicant believes the currently amended claims more clearly distinguish the claimed invention from Richards.

Specifically, Richards does not disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Richards.

Additionally, Richards discloses that “[e]ach of the elastic yarns 14 is inlaid in a coursewise reciprocating fashion across a respective pair of wales....” (Col. 4, lines 9-11)(underlining added). It is well known to those of ordinary skill in the art that inlaid elastic yarn causes a fabric to contract in length. Inlaid elastic yarn causes a straight line in the walewise direction, and forces the non-elastic ground yarn and satin yarn to bend to conform. For example, Richards Bar II ground yarn 12 and the Satin Yarn 10 of Bar III bend to conform to the elastic yarn. Richards uses this structure to create the satin effect of the Bright Bar III horizontal floats (10u). Such a structure, to further enhance the satin surface, is finished tight to width and very high in relaxed courses per inch, which essentially removes all width stretch down to below 10% or even to 0% stretch, leaving the only stretch properties to be in the length warp direction only.

Richards also discloses:

The threading pattern of the elastic yarns 14 on the bottom guide bar and/or the inlay pattern of the elastic yarns may be altered to achieve greater or lesser frequency in the walewise spacing and/or a greater walewise dimension in the rib effect achieved by the elastic yarns 14. These and other variations of the specific embodiment described herein are considered to be within the conceptual scope and substance of the present invention. (Col. 4, lines 45-52).

By removing or skipping ends of elastic yarns 14 on the bottom guide Bar I in an arranged pattern repeat in order to create different rib effects, Richards actually create flat or rigid non-width stretch yarn segments. Such structures further remove any possibility of width stretch.

Thus, Richards does not disclose Applicant’s multi-directional elastomeric or stretch performance fabric. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Richards.

Tacy

Claims 1-2, 5, 12-14, 22 and 35-37 were rejected as being anticipated by U.S. Patent No. 5,619,869 (“Tacy”). Applicant believes the currently amended claims more clearly distinguish the claimed invention from Tacy.

Specifically, Tacy does not disclose an elastomeric or stretch yarn incorporated into the front stitches as recited in currently amended Claims 1, 36, and 37. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Tacy.

Additionally, Tacy does not disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by the cited Tacy.

Donaghy

Claims 1-2, 4-5, 12-15, 22 and 35-40 were rejected as anticipated by U.S. Patent No. 5,855,124 (“Donaghy”). Applicant believes the currently amended claims more clearly distinguish the claimed invention from Donaghy.

Specifically, Donaghy does not disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Donaghy.

Additionally, Donaghy, similar to Richards, is directed to a fabric having a satin-like surface (*see for example*, col. 1, 50-52). Donaghy also uses inlaid elastic yarn. See, for example, Donaghy’s Abstract or description of Figure 2. In Figure 2, and its accompanying description, Donaghy discloses that “bottom (back) guide bar of the knitting machine manipulates the elastic yarns 20 fed from their respective warp beam to traverse relative to the needles 15 to inlay the elastic yarns 20 in a repeating 0-0, 4-4 pattern, as indicated at I of FIG. 2.” (col. 5, lines 39-43).

Inlaid elastic yarn creates a one-direction stretch. Donaghy does not disclose a multi-directional stretch fabric. For at least this reason, Claims 1, 36, and 37, and their dependents, are not anticipated by Donaghy.

## 35 U.S.C. § 103

### Kasey Combinations

Claims 4 and 15 were rejected as obvious in light of Kasey in further view of either U.S. Patent No. 4,870,839 (“Odham”) or U.S. Patent No. 4,879,169 (“Zafiroglu”). The Examiner argues that Kasey discloses all of the limitations of the claims, with the exception of spandex yarn. The Examiner then argues that either Odham or Zafiroglu can be used to supplement this deficiency in Kasey. Amended Claim 1, from which Claims 4 and 15 depend, contains limitations not provided by the Examiner’s combination.

The Examiner’s combination fails to disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claim 1 and its dependents are patentable over the cited combinations.

Additionally, the Kasey-Odham combination fails to create a *prima facie* case of obviousness. Kasey is directed to rigid shrinkable yarns, e.g., “polyamide yarns” “retractable acrylonitrile polymer yarns”, “retractable polyethylene terephthalate yarns”, and “retractable regenerated cellulose yarns”. (Col. 3, lines 22-31). Kasey discloses that “fabrics must be “knitted in a more open construction than is normally employed. After knitting, the fabrics will then be subjected to finishing treatments which will allow the shrinking filamentary to shrink in order to obtain the improved cover.” (Col. 3, lines 10-14)(underlining added). Those of ordinary skill in the art recognize two characteristics in Kasey’s yarn: (1) shrinkability, and (2) rigidity.

Odham is directed to an apparatus for applying uniform tension to elastomeric yarns being deknitted from a yarn package and fed to a knitting machine. Odham discloses that spandex may shrink during storage on a yarn package. (Col. 1, lines 24-31). Those of ordinary skill in the textile arts recognize that shrinkage refers to either a reduction in the length or width of a yarn. See, for example, *Textile Terms and Definitions*, The Textile Institute, 6<sup>th</sup> ed., 1970, “Shrinkage: The reduction in length (or width) of a fibre, yarn, or fabric” (copy enclosed). One of ordinary skill in the art would recognize that Odham’s “shrink” refers to a shrinking in width because the Odham’s yarns are being stored in a stretched position on a yarn package, which creates a yarn of narrower width or diameter. Because of their storage in a stretched position, these yarns shrink in width by taking on, permanently, the narrower diameter of their stretched width.

Kasey's discloses a yarn having a high-shrinkage with a retractility of 3-40% (col. 1, lines 35-37). Kasey defines retractability as "a lengthwise shortening of the fiber of filament" (col. 1, lines 41-41). Odham's yarn only shrinks in width. For at least this reason, the combination is impermissible.

Further, there is no expectation of successfully knitting an elastomeric yarn in an open construction. Odham specifically addresses the problem created by using too little tension on elastomeric yarn, i.e., that "blow-up" occurs if the amount of tension is less than the force needed to unravel the knitted yarn package, which causes some yarns to enter the textile fabric making machine (Odham, col. 2, lines 40-46). For at least this reason, Claims 4 and 15 are patentable over the cited references.

Claims 6-9 were rejected as obvious in light of Kasey in further view of either U.S. Patent No. 4,574,397 ("Dennard") or U.S. Patent No. 5,123,117 ("Prendergast"). Amended Claim 1, from which Claims 6-9 depend, contains limitations not provided by the Examiner's combination.

The Examiner's combination fails to disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 6-9 are patentable over the cited combination.

Claim 17 was rejected as obvious in light of Kasey in further view of U.S. Patent No. 5,916,273 ("Hepfinger"). Amended Claim 1, from which Claim 17 depends, contains limitations not provided by the Examiner's combination.

The Examiner's combination fails to disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claim 17 is patentable over the cited combination.

Claim 21 was rejected as obvious in light of Kasey in further view of applicant's disclosure. Claim 21 is currently canceled, and its limitation has been incorporated into Claim 1. As noted, Kasey does not disclose an elastomeric or stretch yarn incorporated into the front stitches as recited in currently amended Claim 1, nor does Kasey disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. Applicant believes this addresses the Examiner's concerns regarding stitch evasion techniques.

### Byles Combinations

Claims 4 and 15 were rejected as obvious in light of Byles in further view of either U.S. Patent No. 5,222,313 (“Dowdy”) or U.S. Patent No. 5,735,835 (“Holland”). The Examiner argues that Byles discloses all the limitations of the claims, with the exception of spandex yarn. The Examiner argues that Dowdy and Holland each disclose that spandex yarn is hydrophobic.

Amended Claim 1, from which Claims 4 and 15 depend, contains limitations not provided by the Examiner’s combination.

The Examiner’s combination fails to disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. For at least this reason, Claims 4 and 15 are patentable over the cited combinations. The present invention is also patentable over the cited combination because the hypothetical combination is contrary to the teachings of Byles.

As noted above, Byles is directed to a fabric constructed to restrict stretchability in both the course and the wale directions. (Col. 7, lines 45-55)(underlining added).

Dowdy discloses that spandex materials are “stretchable during use”. (Col. 3, line 53). Combining Dowdy’s spandex, regardless of hydrophobicity, with Byles’s fabric would be contradictory to the goals and disclosure of Byles. For at least this reason, the Claims 4 and 15 are patentable over the hypothetical Byles-Dowdy combination.

Holland is directed to a female external urine collection pouch. Holland discloses that spandex is an elastomeric fiber (col. 5, lines 27-30). Combining Holland’s spandex, regardless of hydrophobicity, with Byles’s fabric would be contradictory to the goals and disclosure of Byles, e.g., restricting stretch. For at least this reason, Claim 4 and 15 are patentable over the hypothetical Byles-Holland combination

Claims 6-9 were rejected as obvious in light of Byles in further view of either U.S. Patent No. 4,574,397 (“Dennard”) or U.S. Patent No. 5,123,117 to Prendergast (“Prendergast”). Those rejections are respectfully traversed for the reasons given above. As noted, Byles fails to provide the limitations of Claim 1. Neither Dennard, nor Prendergast are able to fill in the voids of Byles. For at least this reason, Claims 6-9, which depend from Claim 1 are patentable over the cited references.

Claim 17 was rejected as obvious in light of Byles in further view of U.S. Patent No. 5,916,273 (“Hepfinger”). As mentioned previously, Byles requires a fabric constructed to

restrict stretchability in both the course and the wale directions. (Col. 7, lines 45-55). Similarly, Hepfinger discloses a fabric “whose construction is uniquely suited to resist unwanted performance characteristics such as stretch”. (Col. 1, lines 26-27). As noted, Byles fails to provide the limitations of Claim 1, Hepfinger does not fill in the voids. For at least this reason, Claim 17, which depends from Claim 1, is patentable over the cited combination.

Claim 21 was rejected as obvious in light of Byles in further view of applicant’s disclosure. Applicant believes, as mentioned above, currently amended Claim 1 addresses the Examiner’s concerns regarding Claim 21.

Claim 34 was rejected as obvious in light of Byles. As noted above, Byles does not disclose the limitations of applicant’s fabric of amended Claim 1, from which Claim 34 depends. For at least this reason, Claim 34 is patentable over the proposed modification.

#### Richards Combinations

Claim 17 was rejected as obvious in light of Richards in further view of Hepfinger. As noted above, Richards does not disclose the limitations of applicant’s fabric of amended Claim 1, from which Claim 17 depends. For at least this reason, Claim 17 is patentable over the proposed modification.

Additionally, as noted above, Richards does not disclose or suggest a multi-directional stretch because of Richards’s inlaid knitting technique. Hepfinger does not fill in the void because Hepfinger discloses a fabric “whose construction is uniquely suited to resist unwanted performance characteristics such as stretch”. (Col. 1, lines 26-27). For at least the reason that the hypothetical combination fails to disclose the limitations of Claim 1, Claim 17, which depends from Claim 1, is patentable over the cited reference. Further, because Hepfinger teaches away from stretch and Richards’s fabric has a one-directional stretch, the combination is improper. For at least this reason, Claim 17 is patentable over the hypothetical combination.

Claim 21 was rejected as obvious in light of Richards in further view of Applicant’s disclosure. Applicant believes, as mentioned above, currently amended Claim 1 addresses the Examiner’s concerns regarding Claim 21.

### Tacy Combinations

Claim 17 was rejected as obvious in light of Tacy in further view of Hepfinger. Tacy does not disclose an elastomeric or stretch yarn incorporated into the front stitches as recited in currently amended Claims 1. Hepfinger is unable to fill this void. For at least this reason, Claims 17, which depends from Claim 1, is patentable over the cited combination.

Tacy does not disclose a second side formed by a stitch evaded portion of a second yarn, wherein the elastomeric or stretch yarn forces the stitch evaded yarn to the second side. Hepfinger is unable to fill this void. For at least this reason, Claims 17, which depends from Claim 1, is patentable over the cited combination.

As mentioned previously, Tacy does not disclose the elastomeric or stretch yarn of Claim 1. Hepfinger does not fill in this void. Hepfinger discloses a fabric “whose construction is uniquely suited to resist unwanted performance characteristics such as stretch”. (Col. 1, lines 26-27). For at least this reason, Claim 17, which depends from Claim 1, is patentable over the hypothetical combination.

Claim 21 was rejected as obvious in light of Tacy in further view of Applicant’s disclosure. Applicant believes, as mentioned above, currently amended Claim 1 addresses the Examiner’s concerns regarding Claim 21.

### Donaghy Combinations

Claims 6-9 were rejected as obvious in light of Donaghy. Applicant disagrees. As noted, Donaghy’s fabric does not disclose or suggest the limitations of amended Claim 1. The Examiner’s modifications fail to fill this void. For at least this reason, Claims 6-9, which depend from Claim 1, are patentable over the hypothetical modification.

Claim 17 was rejected as obvious in light of Donaghy in further view of Hepfinger. That rejection is traversed. As noted, Donaghy’s fabric does not disclose or suggest the limitations of amended Claim 1. Hepfinger fails to fill this void. For at least this reason, Claims 6-9, which depend from Claim 1, are patentable over the hypothetical modification. Further, the combination is impermissible.

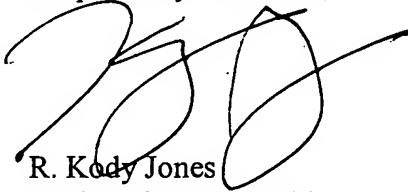
Donaghy’s fabric has a one-directional stretch because of its inlaid construction. Hepfinger discloses a fabric “whose construction is uniquely suited to resist unwanted

performance characteristics such as stretch". (Col. 1, lines 26-27). Hepfinger teaches away from Donaghy's one-directional stretch. For at least this reason, Claim 17, which depends from Claim 1, is patentable over the hypothetical combination.

Claim 21 was rejected as obvious in light of Donaghy in further view of Applicant's disclosure. Applicant believes, as mentioned above, currently amended Claim 1 addresses the Examiner's concerns regarding Claim 21.

Applicant submits that by this amendment, he has placed the case in condition for allowance and such action is respectfully requested. However, if any issue remains unresolved, applicant's attorney would welcome the opportunity for a telephone interview to expedite allowance and issue.

Respectfully submitted,



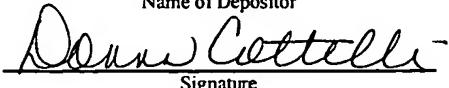
R. Kody Jones  
Registration No. 57,237  
MacCord Mason PLLC  
P. O. Box 2974  
Greensboro, NC 27402  
(336) 273-4422

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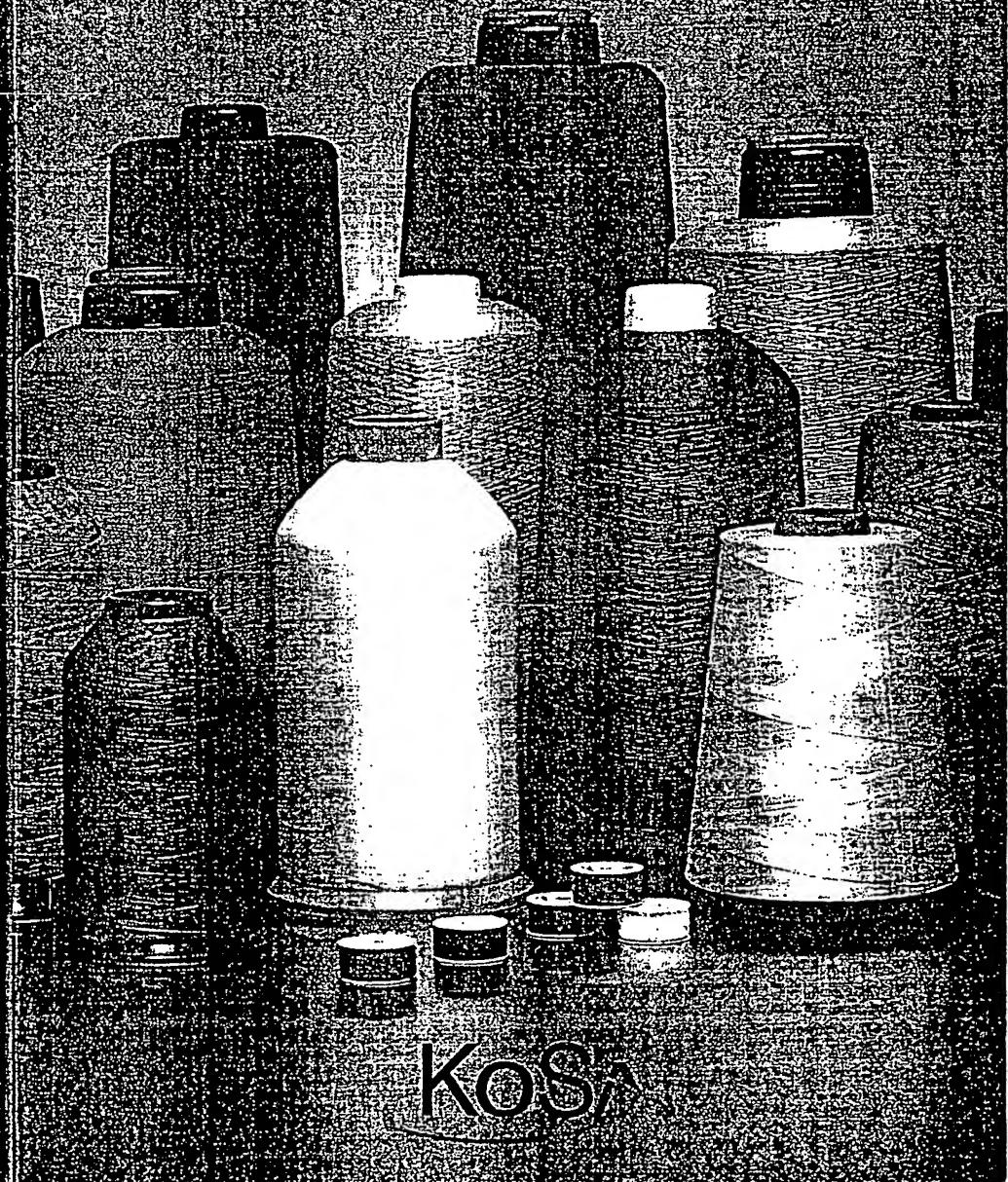
  
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# DICTIONARY

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**STRETCH BREAKING:** In conversion of tow-to-top, fibers are hot stretched and broken rather than cut to prevent some of the damage done by cutting.

**STRETCH GROWTH:** See SECONDARY CREEP.

**STRETCH SPINNING:** A term used in the manufacture of rayon. Rayon filaments are stretched while moist and before final coagulation to decrease their diameter and increase their strength.

**STRETCH YARN:** Any yarn with the ability to stretch to a significant degree when tension is applied and contract when the tension is released, including (1) elastomeric filament yarns, and (2) manufactured filament yarns treated by various texturing processes to impart bulk and stretch. (Also see TEXTURED YARNS, 9.)

**STRIATIONS:** Streaks or bands of various nature in fibers or fabrics.

**STRIÉ:** A term describing any cloth having irregular stripes or streaks of practically the same color as the background.

**STRIKE:** The dye uptake of a textile material in the initial stage of dyeing. A rapid strike can result in uneven dyeing.

**STRIKE-OFF:** Printing of a test fabric length to check pattern registration and shade match prior to print production.

**STRINGUP:** See THREADUP.

**STRINGY SELVAGE:** See SLACK SELVAGE.

**STRIPINESS:** 1. Longitudinal streaks in a warp-knit fabric. 2. Coursewise streaks in a weft-knit fabric.

**STRIPPING:** 1. A chemical process for removing color from dyed cloth by the use of various chemicals. Stripping is done when the color is unsatisfactory and the fabric is to be redyed. 2. The physical process of removing fiber that is embedded in the clothing of a card. 3. See DEGUMMING. 4. Removal of grease from wool by scouring.

**STRIP TEST:** A tensile test using a strip of the fabric of specified width as the test specimen.

**STROLL TEST:** A method of determining the electrostatic propensity of a carpet by measuring the body voltage generated as a person walks on the carpet.

**STUFFER BOX:** A mechanism for crimping in which a fiber bundle (e.g., tow or filament yarn) is jammed against itself, causing it to crimp. By the suitable application of heat (usually wet steam) and pressure to the stuffed tow, a high and permanent crimp can be forced into the bundle. (Also see TEXTURING, STUFFER BOX METHOD.)

**STUFFERS:** Extra yarns running in the warp direction through a woven fabric to increase the fabric's strength and weight.

**S TWIST:** See TWIST, DIRECTION OF.

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# TEXTILE TERMS AND DEFINITIONS

SIXTH EDITION



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## PREFAC

The aim of this publication—70 pages; 1957, 112 pages; 1960, of users—lay, student, and specialist technology. It represents the collective work of people, in committee and in separate sections (Fabric Names, Finishing, Knitting, Weaving), to all of whom, Society of Dyers and Colourists, also gratefully acknowledged.

This new edition both adds to the original material, course of which an attempt has been made to define and interpret the terms for definition and interpretation outlined in the Introduction, v

No work of this kind, representing the state of knowledge at different times, and reflecting as it must the views of different people, Comments and criticisms will be welcome.

- 1st Edition—September, 1954
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*Textile Terms and Definitions*

*Textile 2*

## **Stitch Finish**

*n.* A Finish (q.v.) applied to yarns or fabrics, or both, to facilitate the movement of the sewing thread and/or the penetration of the needle through the material.

*Note 1:* The object is to reduce damage to fabrics and sewing threads or the overheating of the sewing needle.

*Note 2:* Stitch finishes involve the application of lubricants. They are frequently applied to closely woven fabrics such as collar cloth and shoe canvases, to fabrics containing filling material of an abrasive nature, such as metallic oxides, and to fabrics which may be embrittled by chemical or other finishing treatments.

## **\*Stitch Length (Knitting)**

*n.* The length of yarn in a knitted Loop (q.v.).

## **Stitch-bonded Fabric**

*n.* Fabric in which fibres, yarns, fibres and yarns, or fibres and a ground fabric are held together by subsequently stitching or knitting-in additional yarns (cf. Bonded-fibre Fabric).

## **\*Stitch-shaped Garments (Knitting)**

*n.* Garments shaped wholly or partially by change of stitch length or structure, or both, e.g., from 1 x 1 rib to half-cardigan rib.

## **Stitched Hopsack**

*n.* See Hopsack.

## **Stockinette**

*n.* A plain knitted fabric. (This term is not now in common use.)

## **Stopping Line (Warp Knitting)**

*n.* A defect produced in warp-knitted fabrics whenever the knitting action of the machine is stopped. It appears as a horizontal line, which consists of a number of courses that are different in stitch length from the main part of the fabric. It is attributed largely to the changes in warp tension that take place during the deceleration and acceleration of the machine.

## **Store Curtain (Lace)**

*n.* A patterned lace curtain made as a panel of definite size, 36-72 in. wide, 2 yd or more long. It is usually decorated by a single large design. Provision may be made for the insertion of a curtain rod or wire.

## **\*Straight-bar Machine**

*n.* (Plain or rib) A knitting machine having bearded needles fixed in a movable straight bar or bars. It is used to produce fashioned or fully-fashioned goods.

## **Strain**

*n.* See Extension, Note (iii).

## **\*Strand**

*n.* One of the individual components, namely, a single, two-fold, or multi-fold yarn, of a folded or cabled construction.

## **Straw, Tow**

*n.* Flax straw in tossed and broken condition, resulting from threshing a flax crop too poor for normal processing.

## **Stretch**

*n.* See the diagram under Intermittent Spinning.

## **Stretch (Mule)**

*n.* See Mule Spinning (under Intermittent Spinning).

## **Stretch, Warp**

*n.* The amount of stretching sustained by warp yarn during sizing operations. It is usually expressed as a percentage of the original length of unsized warp.

## **Stretch Fabric**

*n.* A fabric characterized by a capacity for stretch and recovery from stretch.

*Note:* The term is used for materials with greater extension and recovery properties than traditional woven or knitted structures from conventional yarns and implies the use of stretch yarns (q.v.), elastomeric threads, or finishing treatments. Such fabrics may have different degrees of extensibility and recovery specified for particular uses. Stretch Fabrics, so defined, are used particularly for body conforming garments (Comfort Stretch); they may be used for figure controlling purposes (Power Stretch), although here, where the prime requirement is power of recovery, the term Elastic Fabric (q.v.) is preferred.

## **\*Stretch Spinning**

*n.* A process of spinning whereby the filaments are substantially stretched at some stage between spinning (extrusion) and collection. The term is applied specifically to a process involving substantial stretch in order to provide high-tenacity yarn.

## **Stretch Yarn**

*n.* Yarn capable of a pronounced degree of stretch and recovery from stretch.

*Note:* Stretch may consist of :

- (a) Conventional yarn treated by certain texturizing processes (see Textured Yarns);
- (b) Elastomer in continuous-filament form (see Elastomeric Fibre).

## **Strick**

*n.* A small bunch of flax straws, of sc held in the hand.

*Note:* In the jute section of the to a bunch of jute similar to a

## **†Strike**

- (1) The initial rate of dyeing.
- (2) See Strick.

## **String Warp Machine**

*n.* See Lace Machines.

## **String Yarn (Hosiery)**

*n.* Coarse mercerized cotton yarn use

## **Stripe Yarn**

*n.* See Fancy Yarns.

## **Stripiness (Warp Knitting)**

*n.* Longitudinal defects caused by ya fabric.

## **Stripiness (Weft Knitting)**

*n.* See Barré.

## **Striping Finger (Knitting)**

*n.* In a finger-type striping unit, the instrument.

## **Striping Unit; Yarn-changing Unit (Knit**

*n.* A mechanism that allows two or m *Note:* Means for cutting and tra

## **†Stripping**

*n.* The removal of dye from fibre.

## **Stubble**

*n.* Broken Filaments (q.v.), whose le are generally caused by breakage c

## **\*Stuffer**

*n.* A warp yarn used to give solidity t The stuffer lies between, and separ

## **Stuffer Thread**

*n.* See Wadding Thread.

## **Stump Bar (Lace Machines)**

*n.* (1) A special form of Steel Bar (c and patterning Bobbinet machine thread-guide holes are rectangular

*The movements imparted by the t threads controlled by these stump throwing the thread from one side*

*(2) (Synonym for Thick Bar) A than usual. Such bars are used w fully threaded.*

## **Substantivity**

*n.* A term generally used as a synonym

## **\*Sueded Cloth**

*n.* A fabric finished in such a way as

## **Swint**

*n.* Excretion from sweat glands of the

## **†Sulphur Dye**

*n.* A dye that is normally applied fro

## **Surface Drive (Yarn Winding)**

*n.* A method of rotating a yarn pack: frictional contact between the surf or drum.

*Note 1:* Allowance being made roller are equal in the winding c speed is equal to that of the dri mately 1 in. from the base of a

*Note 2:* Characteristics of 'surf and decreasing wind (decreasir

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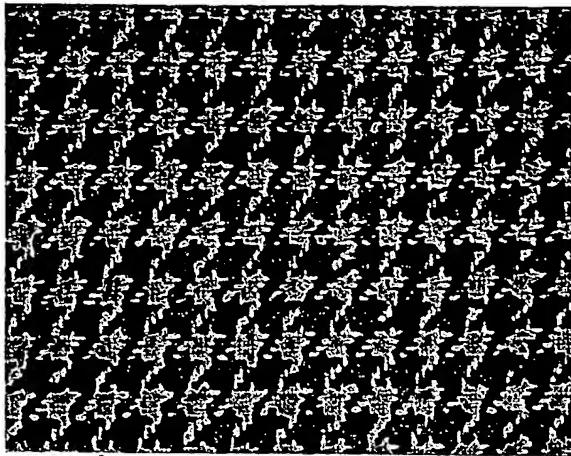
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*Textile Terms and Definitions*

**Shepherd's-check Effect (continued)**

wide check pattern developed in black and white and in 2/2 twill weave as featured on the plaids worn at one time by shepherds in the hills of the Scottish Borders.

Dogstooth or Houndstooth Check (q.v.) is a particular form of Shepherd's Check.



Shepherd's-check effect

**Shiner**

*n.* A warp or weft thread, usually of a continuous-filament yarn, that is more lustrous (and generally tighter) than its neighbours. (See Tight End, Tight Pick.)

**Shires**

*n.* See Weft Crackiness.

**Shives (Flax)**

*n.* The short pieces of woody waste beaten from the straw during scutching.

**Shivey Wool**

*n.* Wool that contains small particles of vegetable matter other than burrs.

**Shoddy**

*n.* The fibrous material made in the woollen trade by pulling down new or old knitted or loosely woven fabrics in rag form. (See also Mungo and note the distinction.)

**Shoddy Shaker (local, Issit's Shaker)**

*n.* A machine used for shaking Fud (q.v.) reclaimed from under the carding engines. It consists of a revolving cage, 48 in. wide, 60 in. in diameter, covered with perforated, planished steel, and having a revolving swift with long steel bars attached. The swift and cage revolve in opposite directions.

**Shog; Rack (Knitting)**

*n.* The lateral movement of the needle-bed on a flat knitting machine or the angular displacement of dial relative to cylinder on a circular machine.

**Shog (Lace Machines)**

*n.* A lateral movement, usually of a specific number of gaits (see Gait (Lace Machines)), imparted to certain of the bars of the machine, e.g., guide bar, point bar (Bobbinet and Furnishing), comb bar (Bobbinet).

**Shog (Warp Knitting)**

*n.* See Underlap.

**\*Shot**

*n.* See Pick.

**Shot Effect**

*n.* A colour effect produced in a fabric woven with a warp of one colour and a weft of a contrasting colour by using dyed yarns or by cross-dyeing. The effect is usually associated with cloths of plain or 2/2 twill weave.

**\*Shottage (Carpet Weaving)**

*n.* The number of pick insertions in relation to each row of pile woven; for example, three weft units inserted denotes a 'three-shot' construction.

**Shrinkage**

*n.* The reduction in length (or width) of a fibre, yarn, or fabric. It may be induced by, e.g., wetting, steaming, alkali treatment, wet processing as in laundering, or dry heat.

*Textile Terms a*

**Shrink-resistant; Shrink-resisting; Shrink-resist**

*adj.* Descriptive of textile materials that exhibit standards based on tests designed to simulate

*Note:* This property may be an inherent or conferred by physical or chemical pro

**Shrink-resistant Finish**

*n.* A treatment applied to a textile material to

**Shuttle (Lace Machines)**

*n.* (1) (Schiffli Embroidery Machine) A bobbin slide in such a manner that it passes through the back thread of the lock stitch (q.v.) and tension is applied by means of:

(2) (Lace Furnishing Machine) A term us

**\*Shuttle (Weaving)**

*n.* A yarn package carrier that is passed thro

**Shuttle Box**

*n.* A compartment at each end of the loom position before and after picking.

**Shuttle Checking**

*n.* The action of arresting the flight of the shuttle

**Shuttle Marking**

*n.* Warp bruising caused by abrasion of the shuttle and the race board. This is often the result of:

*Note:* Sometimes known as Shuttle Ta

**Shuttle Tapping**

*n.* Damaged places in woven fabric caused by cloth that rests on some part of the loom during the action of the shuttle. This causes fracture of the warp and development of small holes during subsequent weaving.

(2) See Shuttle Marking.

**Shuttleless Loom**

*n.* A loom in which the weft is inserted by means of a stationary supply. There are three main types:

(1) Gripper-projectile (gripper-shuttle) loom, in which the projectile fitted with a jaw is inserted of the pick.

(2) Rapier loom, in which the means for carrying the weft is fixed in the end of a rigid rod or flexible rapier. It may have a single rapier to carry the weft from opposite sides of the loom.

(3) Jet loom, in which the weft thread is carried by a jet of air.

*Note:* Because of the nature of these weft threads, they are in lengths of one or two picks, forming acceptable edges (see Selvedge).

**Shuttleless-loom Edge**

*n.* See Selvedge.

**Side Weft Fork**

*n.* See Weft Fork.

**Silesia**

*n.* A lining cloth with a smooth face. Originally 2/1 or 2/2 twill weave. The cloth may be printed.

**Silk**

*n.* The fibre forming the cocoons produced by the silkworm.

*Note:* The natural fibre is covered by a protective coating.

**\*Silk**

*adj.* Descriptive of yarns or fabrics produced from silk.

**'All Silk'**

*adj.* The following definition is given in B.I.T. for fabrics where no textile fibre other than silk is present.